

SERVICE INFORMATION

NO. SI 42NG-029

NOTE: SI's are used only:
1) To distribute information from DAI to our customers.
2) To distribute applicable information/documents from our suppliers to our customers with additional information.
Typically there is no revision service for SI's. Each new information or change of that will be sent along with a new SI.

I. TECHNICAL DETAILS

1.1 Airplanes affected:

All DA 42 NG and DA 42 M-NG airplanes

1.2 Subject:

GARMIN Service Advisory No. 1141 Revision A
ATA-Code: 34-00

1.3 Reason:

GARMIN has issued Service Advisory No. 1141 Revision A referring to EASA Safety Information Bulletin 2011-24 informing that EGNOS Satellites occasionally transmit incoherent data in the geo ranging messages. SBAS capable receivers may experience a loss of vertical guidance during an LPV or LNAV/VNAV approach.

1.4 Information:

For detailed technical information refer to GARMIN Service Advisory No. 1141 Revision A which is applicable without any further additions or restrictions.

II. OTHERS

GARMIN Service Advisory No. 1141 Revision A and EASA Safety Information Bulletin 2011-24 are attached to this Service Information.

In case of doubt contact GARMIN.



SERVICE ADVISORY

NO.: 1141 Revision A

TO: Garmin Integrated Flight Deck Systems with TSO/ETSO approval, GNS 400W/500W series, GNS 480 (CNX80), and GTN 6XX/7XX series Owner/Operators; and Garmin Aviation Service Centers

DATE: August 15, 2011

SUBJECT: Garmin SBAS-capable receivers may experience loss of LPV or LNAV/VNAV capability due to incoherent EGNOS satellite GEO ranging data

AFFECTED PRODUCTS

G1000, G1000H, G950, G900X, G500, G500H, G600, Cirrus Perspective™, and Embraer Prodigy® integrated flight deck systems, GNS 400W/500W series, GNS 480 (CNX80), and GTN 6XX/7XX series navigation systems using EGNOS to conduct satellite-based augmentation system (SBAS) required terminal operations are affected.

PURPOSE

Refer to EASA Safety Information Bulletin ([SIB No. 2011-24](#)). EGNOS satellites occasionally transmit incoherent data in the geo ranging messages. When incoherent EGNOS satellite GEO ranging message data is received by a Garmin SBAS-capable receiver there is no impact in the accuracy or integrity of the position determination; however, a loss of vertical guidance for the RNAV (GPS) approach may occur.

PILOT ACTION

Loss of vertical guidance during an LPV or LNAV/VNAV approach will cause the receiver to announce that the approach has been downgraded to an LNAV approach for the selected runway and the pilot is to use LNAV minima. If an LNAV approach is not available, the pilot must execute the published missed approach procedure. When planning flights to aerodromes with LPV or LNAV/VNAV approaches, always ensure availability of required contingency procedures.

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EASA Safety Information Bulletin

SIB No.: 2011-24
Issued: 09 August 2011

Subject: EGNOS Availability

Ref. Publications: ESSP EGNOS Service Notice 001, Revision 1.1
http://www.essp-sas.eu/download/service_notices/essp_com_r001_01_01_service_notice.pdf

Applicability: All aircraft certified for conducting RNAV/GNSS approaches to LPV minima, or LNAV/VNAV minima when guidance is based on SBAS/GNSS altitude, in European airspace.

Note:

RNAV = Area Navigation

GNSS = Global Navigation Satellite System

LPV = Localiser Performance with Vertical Guidance

LNAV = Lateral Navigation

VNAV = Vertical Navigation

SBAS = Satellite Based Augmentation System

Description: The European Geostationary Navigation Overlay Service (EGNOS) Safety of Life (SoL) service was declared operational on the 2nd of March 2011, enabling the use of EGNOS in critical phases of flight.

Sometime after the declaration was issued, it became apparent that EGNOS occasionally, but more frequently than anticipated at the time of SoL declaration, transmits incoherent data in the messages containing information for geo-ranging (i.e. the use of an EGNOS satellite for ranging, similar to the operation of a GPS satellite).

Although these messages are not required for position calculation, some SBAS compatible GNSS receivers use the data to assess the healthy state of the EGNOS satellite. When these messages contain incoherent data, these receivers may reject all data from one or both EGNOS satellites, resulting in a lower availability of the EGNOS SoL service.

EASA has no indications that the integrity and precision of the EGNOS signal are affected.

Notes:

- Not all receivers are equally affected by this problem.
- All SBAS compatible GNSS receivers which have received European Technical Standard Order (ETSO) approval from EASA will automatically revert to navigation based on pure GPS when EGNOS is not available.

Recommendation: The situation described in the section above may result in equipment not being able to acquire, or continuously track and process, data transmitted by EGNOS. Consequently, it may not be possible to perform or to continue an approach based on EGNOS data. The way in which the equipment is affected varies with the type and manufacturer of the equipment.

The EGNOS service provider, industry and authorities are actively developing solutions to this problem. Until the situation has been resolved, EASA recommends operators to consider:

- that the service may suddenly become unavailable while conducting an approach;
- that the unavailability of the service may last for longer periods (up to several hours);

Because these aspects may need to be mitigated by contingency procedures, operators should ensure availability of the required contingency procedures.

Note:

The EGNOS service provider supervisory authority has reminded the European airspace regulators of the ICAO recommendation to implement a contingency procedure for all SBAS approaches as long as EGNOS does not fully comply with the ICAO standards for continuity of service.

Contacts: For further information contact the Safety Information Section, Executive Directorate, EASA. E-mail ADs@easa.europa.eu.